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MARKETING RESEARCH REPORT NO. 263

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the market for CLASS II MILK

in Oklahoma, Kansas and Western Missouri

U. S. DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
Marketing Research Division

PREFACE

This report analyzes the market organization and structure for "surplus" milk in the fluid-milk markets in Kansas, Oklahoma, and western Missouri. The study was made in 6 major Federal-order markets: (1) Tulsa and (2) Oklahoma City in Oklahoma (now consolidated as the Oklahoma metropolitan market); (3) Neosho Valley in Kansas and Missouri; (4) Kansas City in Missouri and Kansas and (5) Topeka in Kansas (now consolidated as the Greater Kansas City market); and (6) Wichita in Kansas. This study is a part of a series being made in this area to develop improved criteria and methods for pricing "surplus" milk.

Three studies of other aspects of the problem in the three States have been completed: The Marketing and Pricing Structure for Bulk Sweet Cream (Marketing Research Report No. 74); Prices and Other Payments for Milk by Manufacturers (Marketing Research Report No. 81); and The Marketing and Pricing Structure for Skim Milk Products (Marketing Research Report No. 166). Other aspects to be considered in future studies include: Costs incurred by milk plants in processing "surplus" milk; prices and other costs of emergency supplies that might be used instead of carrying seasonal reserves; accessibility of facilities, other than the receiving handlers' own plants, for processing surplus milk, together with costs and problems involved in their use; and response of handlers to changes in price levels for milk. Findings on these separate aspects, brought into proper relationship with one another and with the major objectives of pricing milk in the fluid markets of this area, would provide a basis for improvements in the pricing of such milk. This study is part of a broad program of research designed to improve efficiency in the marketing of farm products in general.

Thanks are due to the managers of the plants for providing much of the information used in this report. Administrators of the Federal milk marketing orders of the area were very helpful in the planning of many phases of the study. They contributed valuable background information.

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Washington, D. C. August 1958

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SUMMARY

In the Federal-order milk market areas of Kansas, Oklahoma, and western Missouri, milk plants had adequate facilities for processing all of the milk received from regular producers. The extent to which these facilities were used was determined primarily by the type of product. For products that were relatively highly perishable, such as fluid milk and cream, cottage cheese, and ice cream, the amount processed was determined largely by demand in the current local market; for less perishable products, such as butter, powdered milk, and American cheese, the amount processed was determined by the supply of milk. These findings are based on a survey of 43 plants in the area mentioned.

Most of the products made from Class II milk were sold in the market where processed. Direct sales on regular retail and wholesale routes were the most important outlet. Sales to other handlers within individual markets were second in importance. Sales to outside markets were of minor importance; only butter and nonfat dry milk were commonly sold to more distant markets.

With few exceptions, fluid-milk distributors also distribute cottage cheese, ice cream products, and butter. Distributors who did not manufacture these products purchased them from other handlers, most commonly within the same marketing area.

Direct receipts of milk from producers and utilization of milk were frequently out of balance for most of the handlers in an individual market, and were even more often out of balance for individual handlers. Half of the handlers followed a regular procurement policy of obtaining sufficient milk from approved sources for Class I uses and for certain Class II uses--primarily for cottage cheese and ice cream. More than two-thirds believed this policy would be best for their businesses. In spite of this, most of the handlers found it necessary, at times, to supplement direct receipts from producers by purchasing some milk from other handlers. The supplementary supply was needed in day-to-day or summer months' shortages, and was used principally for manufacturing Class II products. The cost of such milk usually exceeded the price paid to producers for Class II milk.

The imbalance of supply and direct utilization was further indicated by the fact that at other times receipts from regular producers exceeded total plant usage. Over 80 percent of the plants reported excess receipts for periods ranging from seasonal, for most plants, up to year-round, for 7 plants. In most cases, the reason for not utilizing total receipts at all times was a lack of market for certain products rather than a lack of facilities. Most of the excess milk was disposed of locally, f. o. b. buyer's plant, at prices about equal to the Class II price; this indicates that there probably was some loss on such milk.

Policies and practices, as well as problems, involving Class II milk varied considerably by type of plant and by individual marketing area.

Nine of the fluid-milk plants were large and had extensive manufacturing operations. These plants, as a regular policy, purchased from producers as much milk, both graded and ungraded, as was available to them. They also purchased milk from other handlers, absorbing most of the milk receipts of such handlers that were in excess of needs. Only 2 of these 9 plants reported that they had, at any time, received more milk than could be processed in their own plants.

Twenty-two other large plants had limited manufacturing operations. Most of them made cottage cheese and ice cream from graded milk, mostly for sale on their own regular retail and wholesale routes. Two-thirds of these plants had a regular policy of purchasing from producers sufficient milk for both Class I and Class II needs. Day-to-day, holiday, and seasonal shortages and excesses of producer milk were a common problem. Generally, additional supplies were acquired and excesses were disposed of at prices which resulted in some losses as compared with supplies from producers for regular needs.

Six of the plants were small, and had limited manufacturing operations. They operated much the same as the larger plants, but shortages and excesses were somewhat less of a burden.

The remaining 6 plants also were small, and they had exclusively fluid operations. These plants had relatively greater shortages and excesses than the others. However, perhaps because of the small volumes involved, balancing supply and utilization was less trouble for these plants than for the larger ones.

Adequate supplies were obtained and excess supplies were disposed of most easily in those markets where either a privately owned or a producer-owned organization assumed responsibility for the milk supply in the market. The greatest difficulties were in those markets where relations were poor between competing producers' organizations or between a producers' organization and privately owned distributors.

THE MARKET FOR CLASS II MILK IN OKLAHOMA, KANSAS, AND WESTERN MISSOURI

By D. D. MacPherson, agricultural economist
Market Organization and Costs Branch
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INTRODUCTION

This report presents an analysis of the market organization and structure for "surplus" milk in the south central area of the United States. This "surplus" is milk which qualifies for, but is excess to, sales of Class I, or fluid, milk under the Federal milk marketing orders. At the time of the study, these markets were Kansas City and Neosho Valley, in Kansas and Missouri; Topeka and Wichita, in Kansas; and Oklahoma City and Tulsa-Muskogee, in Oklahoma.

The availability of processing facilities for milk and the market for products of such facilities are basic factors influencing the amount of milk that dealers will accept. Milk dealers, in making decisions, consider the overall supply-consumption balance of milk in the area, alternate sources of milk, and the nature of the local, regional, and national market. For example, storability characteristics and low transportation costs in relation to value of some products, such as butter, cheese, and nonfat dry milk, sold on the national market, force consideration of prices and supplies in other areas, especially the North Central States.

Before World War II, a large part of the dairy business in the south central area consisted of manufacturing dairy products from farm-separated cream and from milk which did not meet health regulations for milk for fluid uses. During the war, rapid industrial growth, the expansion of the Texas market for milk products, the narrowing of the spread between prices for milk for manufacturing (ungraded) uses and milk for fluid uses, and other factors caused a greatly increased demand for milk. Severe shortages of milk for fluid use occurred, and substantial amounts were brought in from other areas. Since that time, production of graded milk has generally increased more rapidly than fluid utilization. Shortages had almost disappeared by 1952; use of graded milk for manufactured products increased, both in absolute amounts and in percentage of total milk received from producers. The increasing importance of such milk indicates the need for evaluating the market for milk so used.

Definitions of Reserve, Surplus, and Excess Milk

The terms "reserve," "surplus," and "excess" are used to mean a number of different things in the dairy industry. In some instances, each of these terms has a definite meaning; in others, they are used interchangeably. In common usage, "surplus milk" means all milk received by distributors which qualifies

for, but is excess to, the amount sold as fluid milk, fluid cream, and related fluid products. This definition frequently is tied to the definition of Class I milk in regulated markets, and consequently, is subject to any variations in Class I definitions.

This "surplus," in a stricter sense, is made up of three parts, (1) operating reserve, (2) seasonal reserve, and (3) milk which is excess to fluid and reserve requirements. 1/ These components arise from the peculiar nature of fluid milk markets.

In this study, it was observed that most fluid-milk plants considered production of cottage cheese and ice cream as an integral part of their operations. These products were usually made from milk approved for Class I use for one or both of two reasons: Health regulations may prohibit receipts of unapproved milk in a fluid-milk plant; approved milk is a more dependable source of supply. For these plants, regular requirements were for sufficient milk for fluid use, cottage cheese, and ice cream; "surplus" or "excess" was receipts from producers that exceeded such requirements. To many handlers, the term "excess" meant any milk that could not be utilized within the plant of the original receiver.

Because of the variations in use of these terms, utilization of milk for various products will be referred to as specifically as is practicable.

Purpose of This Study

The facilities available for processing milk into nonfluid products reflect the accumulated past decisions of processors. The extent to which such facilities are currently used, on the other hand, measures the nature of the handlers' responses to current prices for milk and the market for nonfluid products. This study was made to determine these past and current factors, as well as other pertinent information such as procurement and disposition practices. A knowledge of these components, combined with findings in other phases of this overall project, will provide a better understanding of the problems involved in improving the pricing and marketing of milk in this area.

Scope and Method of This Report

This report analyzes the organization of, and the practices in, the market for nonfluid uses of milk by handlers regulated under the Federal milk marketing orders for: (1) Oklahoma City and (2) Tulsa, in Oklahoma (now combined as the Oklahoma metropolitan order); (3) Neosho Valley, in Kansas and Missouri; (4) Kansas

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1/ For precise definitions of these terms, see: Swantz, Alexander, "The Marketing and Pricing Structure for Bulk Sweet Cream in Kansas, Missouri, and Oklahoma Markets," Mktg. Res. Rept. 74, U. S. Dept. Agr., November 1954, p. 3.

City, in Missouri and Kansas; and (5) Topeka in Kansas (now combined as the Greater Kansas City order); and (6) Wichita in Kansas. Other minor fluid-milk markets and unregulated--manufacturing grade--milk were not included as a major part of the study and are considered only to the extent that they bear directly on the marketing of regulated milk in the Federal milk marketing areas.

Data pertaining to amounts of milk, sources of supply, and disposition by product utilization were obtained from the milk market administrators; these data were for certain unidentified individual handlers and for each market as a whole, covering the period July 1953 through June 1955. Generally, the procedure was to obtain data for the 4 to 7 large handlers, in each market, who collectively received about 90 percent of the regulated milk in that market; 1 small handler who processed some Class II products along with fluid operations; and 1 small handler who processed fluid milk only. 2/ This procedure was followed on the premises that data from a relatively few large handlers would provide information showing how most of the milk was handled, and that data from a few of the more numerous small handlers would provide information showing "surplus" disposal problems that were peculiar to such firms. Data were obtained for 31 large handlers and 12 small handlers, or about half of the total of 85 handlers regulated by the 6 market orders. These 43 handlers received 90 percent of the milk, sold 92 percent of the fluid milk, and used 87 percent of the milk that went to nonfluid uses.

Information on utilization of milk was obtained, by personal interview, from these handlers. More specifically, this information covered the type of facilities owned, current use of facilities (including limiting factors), sales outlets for products, sources of purchased products, procurement policies for milk, purchasing policies for milk obtained from other handlers, disposition of milk which was excess to total utilization within the receiving plant, and business arrangements for procuring and disposing of milk and milk products.

Data on the general dairying characteristics of the area were obtained from the 1954 Census of Agriculture. These data are used for comparative purposes, to show the status of the Federal milk markets within the framework of the overall dairying of the area.

"Who's Who in the Dairy Industries" was the source of lists of dairy-product manufacturing plants in the area. 3/

2/ It was necessary to vary this pattern somewhat in the individual markets. For example, in one market there were no exclusively fluid-milk handlers.

3/ "Who's Who in the Dairy Industries," Urner-Barry Company, 92 Warren Street, New York 7, New York, 1953.

General Description of the Area

The fundamental purpose of Federal milk marketing orders is to regulate the marketing of milk qualified for fluid use. The nature of a fluid-milk market is such that, in order to have a sufficient supply for fluid use, it is necessary to obtain more than may be needed on a day-to-day or seasonal basis. The classification structure of the Federal orders generally follows local health regulations: Only approved milk (produced on inspected farms) may be used for fluid purposes; milk so used has, to a degree, a protected market. However, health regulations do not require approved milk for all dairy products; therefore, when approved milk is used for some products, it competes, to varying degrees, with unapproved milk. In another sense, all unapproved milk is competitive with regulated milk since, with sufficient incentive, most dairy farms can be brought to meet necessary standards. For these reasons, an understanding of the marketing of regulated milk includes a knowledge of the relationship of the milk supply in the Federal-order markets to the overall milk supply in the area.

In 1954, the 6 Federal-order markets covered by this study drew their milk supply from 149 counties in central-western Missouri, southeastern Kansas, and northeastern and central Oklahoma; 1 county in southwestern Iowa; and 4 counties in northwestern Arkansas (fig. 1). This 154-county area also supplied milk to distributors regulated by Federal orders in the markets of St. Louis, Ozark, Ft. Smith, North Texas, and Southwest Kansas, as well as to distributors in nonregulated fluid-milk markets and to manufacturing plants.

Approximately 100,000 producers in these counties sold about 3.5 billion pounds of milk (whole milk and milk equivalent of cream) in 1954. Of this total, 1.2 billion pounds, slightly more than one-third, was sold by 9,200 producers to handlers regulated by Federal milk orders. Handlers in the 6 markets covered by this study bought 1.1 billion pounds, 32 percent of the total milk marketed and about 39 percent of the milk sold off farms as whole milk (table 1). Available data do not show, in total, the amount of milk utilized for fluid uses and the amount utilized for manufactured dairy products. However, of the 1.1 billion pounds sold to handlers in the 6 Federal-order markets, 800 million pounds was utilized in Class I (table 2). Considering that Federal-order markets cover all the large population centers, that these markets include all the large fluid-milk distributors, and that their sales territories blanket the entire area, it is probable that not more than 1 billion pounds of the 3.5 billion pounds total was utilized as fluid milk. Consequently, nonfluid uses accounted for about 70 percent of farmers' sales of milk and milk equivalent of cream. Of the 2.5 billion pounds so used, about 300 million was received by distributors in the 6 Federal-order markets and 2.2 billion pounds by nonregulated plants.

The importance of manufacturing uses of milk is shown by the large number of dairy manufacturing plants in the milksheds for these 6 markets. There were in this area, in 1953, 142 plants producing butter, 64 plants producing cheese, 31 plants producing condensed, evaporated, and dried milks, and 139 plants

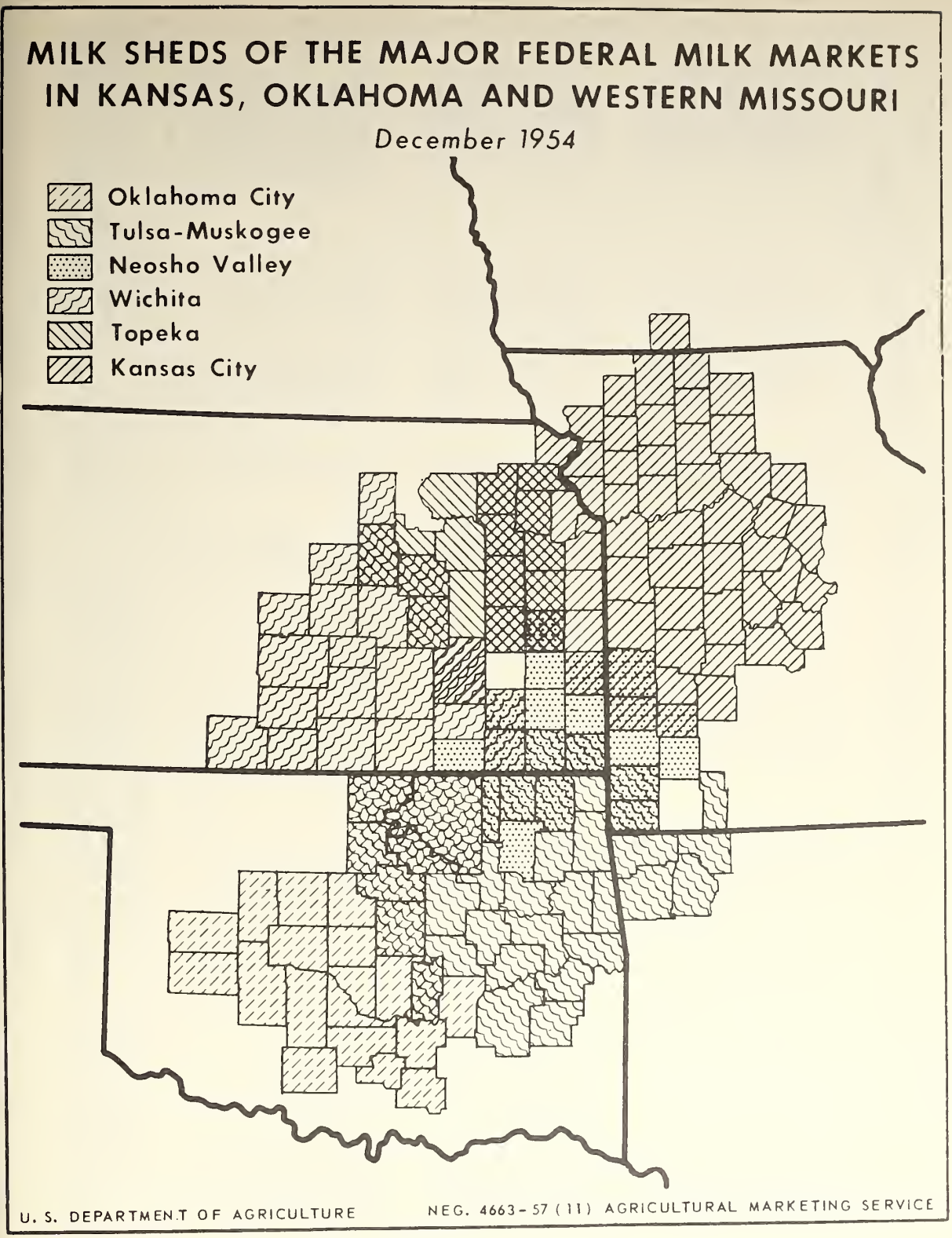
MILK SHEDS OF THE MAJOR FEDERAL MILK MARKETS
IN KANSAS, OKLAHOMA AND WESTERN MISSOURI
December 1954
Oklahoma City
Tulsa-Muskogee
Neosho Valley
Wichita
Topeka
Kansas City
U. S. DEPARTMENT OF AGRICULTURE
NEG. 4663-57 (11) AGRICULTURAL MARKETING SERVICE

Figure 1

Table 1.--Receipts of milk in the principal fluid milk markets of Kansas, Oklahoma, and western Missouri, by source, July 1954 - June 1955 (in thousands of pounds)

Market and time period	Receipts			Total 1/
	Approved		Unapproved 1/	
	Producers	Other		
September 1954				
Kansas City	30,260	251	372	30,883
Tulsa-Muskogee	15,092	---	1,222	16,314
Neosho Valley	7,804	---	4,900	12,704
Oklahoma City	13,578	349	723	14,650
Topeka	4,391	154	164	4,709
Wichita	12,466	---	1,019	13,485
Total	83,591	754	8,400	92,745
May 1955				
Kansas City	40,804	---	65	40,869
Tulsa-Muskogee	20,566	---	1,747	22,313
Neosho Valley	9,507	---	7,707	17,214
Oklahoma City	16,013	---	598	16,611
Topeka	5,942	659	454	7,055
Wichita	14,044	---	1,406	15,450
Total	106,876	659	11,977	119,512
July 1954 - June 1955				
Kansas City	415,977	463	1,651	418,091
Tulsa-Muskogee	204,751	---	13,816	218,567
Neosho Valley	103,914	---	69,581	173,495
Oklahoma City	177,327	778	6,609	184,714
Topeka	64,745	2,905	1,884	69,534
Wichita	155,797	---	13,131	168,928
Total	1,122,512	4,146	106,672	1,233,331

1/ Does not include unapproved milk received at plants that are not considered to be pool plants even if the facility was owned by a pool-plant handler. For example, 2 of the firms included in this study received a total of over 100 million pounds of unapproved milk in their nonpool plants.

Table 2.--Utilization of milk in the principal fluid milk markets of Kansas, Oklahoma, and western Missouri, July 1954 - June 1955 (in thousands of pounds)

Market and time period	Fluid	Cottage cheese	Ice cream	Other 1/ nonfluid products	Transfers
September 1954					
Kansas City	25,538	2,937	729	53	1,626
Tulsa-Muskogee	13,627	716	683	806	481
Neosho Valley	6,707	766	299	4,721	211
Oklahoma City	11,929	1,159	623	836	153
Topeka	4,295	126	52	74	161
Wichita	9,523	1,217	484	1,799	462
Total	71,619	6,921	2,800	8,289	3,094
May 1955					
Kansas City	24,404	3,094	681	1,015	11,675
Tulsa-Muskogee	12,148	1,029	767	1,329	7,041
Neosho Valley	6,197	1,088	273	8,691	965
Oklahoma City	11,530	1,198	1,064	1,890	930
Topeka	4,355	521	32	174	1,972
Wichita	9,166	1,452	373	2,244	2,215
Total	67,800	8,382	3,190	15,343	24,798
July 1954 - June 1955					
Kansas City	304,279	35,149	7,191	7,279	64,194
Tulsa-Muskogee	154,784	10,451	7,311	8,880	37,140
Neosho Valley	75,110	11,240	2,688	78,123	6,334
Oklahoma City	142,357	13,409	6,890	15,045	7,013
Topeka	52,926	2,973	464	1,870	11,301
Wichita	114,269	15,525	4,356	19,442	15,336
Total	843,725	88,747	28,900	130,639	141,318

1/ Includes butter, condensed milk, evaporated milk, nonfat dry milk, cheese, aerated cream, and miscellaneous.

producing ice cream. 4/ There were also 456 fluid-milk distributors, of which 163 (85 handlers and 78 producer-distributors) were regulated under the Federal-order marketing programs.

The area's supply of milk approved for fluid use considerably exceeded local consumption. Fluid milk in bulk was supplied to the Federal-order markets of St. Louis, Ozark, North Texas, and Southwest Kansas; in addition, fluid-milk routes of regulated handlers extended as far as eastern Colorado.

Manufactured dairy products processed in plants in this area were sold on the national markets; Texas and other southern markets were particularly important outlets. There were also substantial movements of milk and milk products within the area. The milksheds of the individual regulated markets overlapped widely. One county in southwest Missouri made shipments to 5 Federal-order markets; a number of counties made shipments to 3 or more such markets. Fluid-milk sales, for many handlers, extended to other Federal-order markets as well as to unregulated areas. Handlers in each of the 6 Federal-order markets sold dairy products, processed from approved milk and unapproved milk, in other Federal-order markets.

A number of factors affect the amounts of milk products shipped between the various markets in the area and to markets outside the area. The supply of milk in relation to consumption is, of course, basic. Characteristics of specialization and ownership of facilities have definite effects not only on the intermarket movement of milk and milk products but also on many other aspects of the market; in some ways, the type of operation or of ownership relations is of greater importance than the location of the plant.

From the point of view of the market for excess graded milk, 2 factors stand out. First, 5 dairy-product firms have 15 plants operating under the Federal-order programs in the area. In addition, these firms have affiliated, unregulated plants within the marketing areas as well as in adjacent nonregulated areas. Such firms, because of raw-material cost, milk supply, economies of size, or for other reasons, tend to specialize the manufacturing of Class II products in 1 or 2 plants; these plants supply not only their own needs but also the needs of affiliated plants both in and near the area. For example, 1 of the plants included in the survey supplies certain Class II products to at least 5 affiliated plants outside its own marketing area.

Second, within each of the individual markets, the milk supply which was excess to the total requirements of the plants of original receipt was handled by 1 or a very few plants with extensive manufacturing facilities. In 4 of the markets, a single plant handled nearly all of this excess; in the other 2 markets, 2 plants in 1 and 3 in the other handled the excess. Each of these 9 plants processed large amounts of ungraded milk and farm-separated cream as well as excess approved milk; the scale of operations of these plants was such that they looked to outside markets for sales outlets.

4/ The number of plants is not additive since, in many instances, a single plant produces several dairy products.

During the period July 1954 through June 1955, audited reports of handlers regulated by these 6 market orders showed receipts of 1,233 million pounds of milk, consisting of about 1,123 million pounds of approved milk from producers, 4 million pounds from handlers in other Federal-order markets, 5/ and 107 million pounds of unapproved milk.

Data for receipts of unapproved milk are incomplete. The markets differred greatly as to the amounts of unapproved milk reported, varying from all such receipts to none. This was because of differences in the administration of the Federal marketing orders and also because of local health ordinances and the number of plants a handler operated within a given market. Regulated firms frequently had unregulated operations using unapproved milk in the same overall plant or in separate plants. Actual receipts of ungraded milk by these firms were unquestionably considerably greater than the amount reported.

Utilization of the 1,233 million pounds of reported receipts was as follows: Fluid milk, 68.4 percent; cottage cheese, 7.2 percent; ice cream and ice cream mix, 2.3 percent; other major dairy products such as butter, cheese, condensed milk, evaporated milk, and nonfat dry milk, 6.4 percent; transferred to unregulated manufacturing plants, 11.5 percent; and miscellaneous uses such as other manufactured products, plant loss, dumped and spilled, animal feed, etc., 4.2 percent (fig. 2).

A principal purpose of this study is to consider uses of milk received from farmers who are "producers" within the definitions of the orders. The data indicate that, except in the plants with extensive manufacturing facilities, such milk was used for fluid milk, cottage cheese, and ice cream, or was transferred to manufacturing plants. The importance of cottage cheese and ice cream uses of "producer" milk is further indicated by the fact that nearly three-fourths of the total production of these products was in plants that received only small amounts of milk from sources other than "producers." Even some of the milk not received from "producers" was approved milk purchased from other handlers.

Of the total receipts of milk from "producers," 75 percent was used for fluid milk, 8 percent for cottage cheese, and 3 percent for ice cream; 12 percent was transferred, and the remaining 2 percent went to miscellaneous uses.

FACILITIES FOR PROCESSING OTHER THAN FLUID DAIRY PRODUCTS 6/

There is reason to think that the kind and amount of processing facilities in an area would be a major factor governing the market for Class II milk. The type and distribution of facilities determine the amount of Class II milk the individual plant can or is willing to handle. For example, Class II receipts

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5/ At least part of this 4 million pounds was intermarket transfers within the area.

6/ The word "facility" is used in this report to mean the necessary equipment to process an individual product in an individual plant.

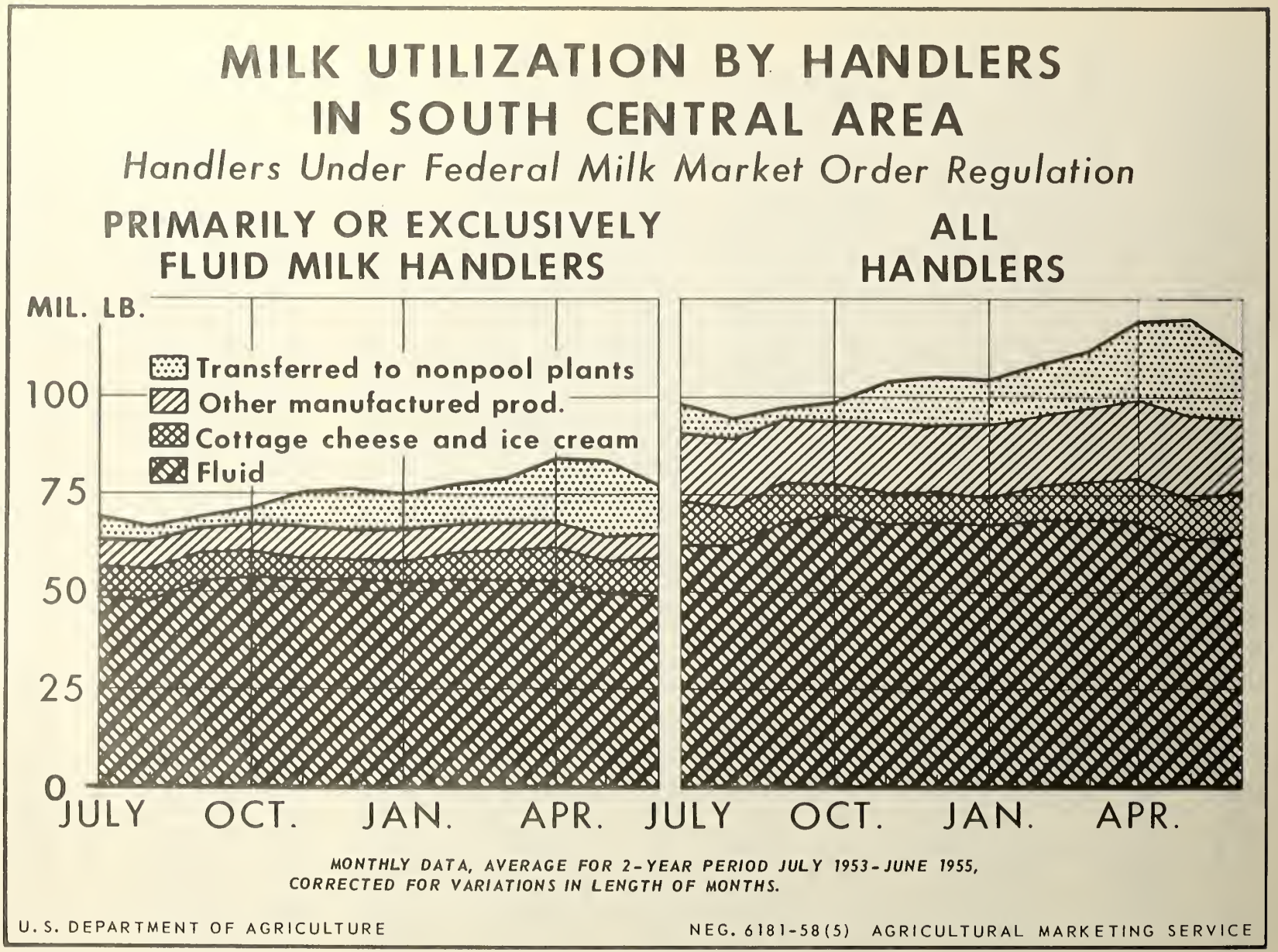
MILK UTILIZATION BY HANDLERS
IN SOUTH CENTRAL AREA
Handlers Under Federal Milk Market Order Regulation
PRIMARILY OR EXCLUSIVELY
FLUID MILK HANDLERS
ALL
HANDLERS
MIL. LB.
100
75
50
25
0
Transferred to nonpool plants
Other manufactured prod.
Cottage cheese and ice cream
Fluid
JULY
OCT.
JAN.
APR.
JULY
OCT.
JAN.
APR.
MONTHLY DATA, AVERAGE FOR 2-YEAR PERIOD JULY 1953-JUNE 1955,
CORRECTED FOR VARIATIONS IN LENGTH OF MONTHS.
U. S. DEPARTMENT OF AGRICULTURE
NEG. 6181-58(5) AGRICULTURAL MARKETING SERVICE

Figure 2

may be a burden for the plant that has limited facilities for processing Class II products; large Class II receipts may be a source of high-quality raw material for the plant with extensive facilities for processing Class II products.

Of the 43 plants included in this study, 6 were chosen because they were small plants with exclusively fluid-milk operations, leaving 37 which had facilities for processing other-than-fluid dairy products. Facilities for producing cottage cheese and ice cream items were, by far, the most widespread among the plants (table 3). Thirty-five of the 37 plants had cottage cheese facilities; all but 2 of these facilities were used on a year-round basis. Thirty-one plants had facilities for producing ice cream mix, and 24 had facilities for producing ice cream; of the ice cream mix facilities, 28 were used year-round, 2 were used seasonally, and 1 was not used. All of the ice cream facilities were used year-round. 7/ Because of franchise rights and specialized equipment requirements, ice cream novelties were produced by only 3 plants. For similar reasons, only 1 plant produced aerated cream.

Since 90 percent of the plants produced cottage cheese and 85 percent produced ice cream, it is evident that, in this area, most fluid-milk distributors use approved milk for these products on a regular year-round basis. 8/ The majority of plants producing cottage cheese and ice cream items received only approved milk; therefore, in these plants approved milk so used did not compete directly with unapproved milk.

On the other hand, approved milk used for other manufactured dairy products did compete with unapproved milk; in every plant which made these products, both approved milk and unapproved milk or cream were used. Nine plants had facilities for producing butter; 8 of these were used year-round. Eleven plants had facilities for producing condensed milk products; 7 of these were used year-round, 2 were used seasonally, and 2 were not used. 9/ Facilities for other products were as follows: Nonfat dry milk, spray process, 5; nonfat dry milk, roller process, 2 (only 1 used); whole milk powder, 2 (only 1 used); cheddar cheese, 2 (only 1 used) evaporated milk, 1; and cheese other than cottage or cheddar, 1.

Facilities for producing cottage cheese and ice cream items were well distributed among the three classifications of plants by type. On the other hand, facilities for other manufactured products were, for the most part, concentrated in the 9 fluid and manufacturing plants that received both approved and unapproved milk. These plants had 8 of the 11 facilities for condensing, 7 of the 9 for butter, and all of the facilities for nonfat dry milk, cheddar cheese, whole milk powder, evaporated milk, and aerated cream.

7/ Nearly all of the plants producing ice cream produced their own ice cream mix; therefore, the data for these 2 facilities are not additive. Thirty-two plants, in total, produced ice cream items.

8/ For further evidence of this, see p. 27 on procurement policies.

9/ For most of these plants, condensed milk was an intermediate product used to produce ice cream mix or nonfat dry milk. Only four of the plants sold condensed milk as such.

Table 3.--Number of milk manufacturing facilities, by type of plant, Kansas, Oklahoma, and western Missouri area

Item	Type of plant							
	Fluid and manufacturing		Large, basically fluid		Small, basically fluid		Total	
	Owned	Used	Owned	Used	Owned	Used	Owned	Used
Total plants in class	9		22		6		37	
Product:								
Butter	7	1/7	1	1	1	1	9	1/9
Cheese, cheddar	2	1	---	---	---	---	2	1
Cheese, cottage	9	9	20	19	6	5	35	33
Cheese, all other	---	---	1	1	---	---	1	1
Condensed milk products	8	7	3	2/2	---	---	11	2/9
Cream, aerated	1	1	---	---	---	---	1	1
Evaporated milk (canning equipment)	1	1	---	---	---	---	1	1
Ice cream	5	5	14	14	5	5	24	24
Ice cream mix	7	7	19	2/18	5	5	31	2/30
Ice cream novelties	1	1	2	2	---	---	3	3
Nonfat dry milk - roller	2	1/2	---	---	---	---	2	1/2
Nonfat dry milk - spray	5	5	---	---	---	---	5	5
Whole milk powder	2	1	---	---	---	---	2	1

1/ Includes 1 facility used seasonally only.
2/ Includes 2 facilities used seasonally only.

These diversified plants were well distributed among the markets, 1 in each of the markets of Oklahoma City, Wichita, Topeka, and Kansas City, and 2 in Neosho Valley. In the Tulsa-Muskogee market the major facilities for dairy products, other than fluid, cottage cheese, and ice cream items, were owned by a nonpool plant.

The dairy-products manufacturing facilities were well distributed among the individual markets. Variations occurred primarily from the nature of the plants included in the study. For example, the Neosho Valley market had more facilities for producing butter and condensed milk products because the study included more diversified plants in that market. Facilities for producing nonfat dry milk were not reported in Wichita or Tulsa-Muskogee because, in both instances, the plants producing these products were nonpool plants and, therefore, not included in the study.

UTILIZATION OF FACILITIES

All factors considered, it appears that the available facilities, if fully utilized, had capacity to absorb all of the Class II milk even during this period of rapidly expanding production. Actually, of course, many other factors were fully as important as capacity. When and where facilities were operated, for what use, and ownership determined how facilities were used and whether such facilities were adequate.

For instance, it might be assumed that facilities were underutilized because 36 of the 37 companies reported that facilities were not fully utilized throughout the year 10/; it might also be assumed that facilities were inadequate because 35 plants did not process all of the milk received from producers. Neither of these assumptions is true unless qualified.

The distribution of facilities among the individual firms and the products processed strongly influenced the extent to which facilities were used. Twenty-six of the companies that reported limited use of facilities also reported transfer of some milk to manufacturing plants because receipts of milk were excess to total plant requirements. This condition arose from several factors.

First, these companies were primarily fluid-milk plants and were faced with the problem "in order to have enough, it is necessary to have too much," a problem common to fluid-milk operations.

Second, supply and demand were out of balance not only on a seasonal basis, but also for much shorter periods such as a month or even a week. In one extreme case, a company that bottled fluid items and made cottage cheese and ice cream for exclusively wholesale sales to retail stores reported that it sometimes had both a shortage and an excess of milk within the same week; this occurred because

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10/ The one exception was a relatively small plant that had a contract to supply a military installation.

about 50 percent of the processing was done on Thursdays and Fridays for delivery to stores on Fridays and Saturdays. Several companies reported that holidays caused shortages and excesses to occur in the same week.

Third, in many instances, the major factor controlling the use of facilities was the market for products rather than the supply of milk; 28 companies reported that the market controlled the volume of production but only 9 reported milk shortage as a controlling factor (table 4).

From this, several conclusions, singly or in combination, are possible: Capacity of facilities may actually be excess to overall needs; facilities may be fully utilized a few days of a week but only partially used, or idle, other days of the week; facilities may be fully utilized during part of the year but underutilized the remainder of the year. 11/

Definite identification of facilities as excess to requirements was possible only in those relatively few instances where facilities were not used at all or were underutilized the year-round. Underutilization in the remaining instances was not clear cut and was, perhaps, a matter of the yardstick used; the yardsticks used could measure capacity in terms varying from an 8-hour day, 5 days a week or less, to 24 hours a day, 7 days a week. A further consideration might well be that the volume of milk that could be processed would be determined by the available labor force rather than the extent of facilities available. The fact that the physical capacity of facilities was adequate to process all of the milk received in a market did not, of course, eliminate all difficulties in handling surplus. As previously stated, for many distributors the amount of milk processed was determined by the market for products. When receipts of milk exceeded the market needs, such firms were forced either to sell the excess to manufacturing plants or to refuse to accept delivery of the excess. In at least one case, a manufacturing plant refused to accept an amount of milk that would require working beyond the normal work week. Overtime wage rates would have resulted in costs exceeding the return for the product.

Utilization of facilities by different types of plants varied only as would be expected from the variation in types of facilities owned and products processed. For instance, 3 types of plants had facilities for production of cottage cheese and ice cream, and about equal proportions of plants of each type reported underutilization resulting from lack of markets. The exceptions were 2 fluid and manufacturing plants, which had year-round excess capacity, and 3 basically fluid plants that found it more economical to buy from other handlers than to use their own facilities (table 5).

11/ This results not only from the variation in the supply of milk, but also from variation in sales volume. For example, during the period July 1954-June 1955, utilization of milk for cottage cheese and ice cream items varied, on a daily basis, from a low of 248,000 pounds in December to a high of 379,000 pounds in June.

Table 4.--Factors which limited the use of milk manufacturing facilities, by markets

Item	Market						
	Kansas City	Topeka	Wichita	Oklahoma City	Tulsa-Muskogee	Neosho Valley	Total 6 markets
Number of plants in market	8	5	5	6	5	8	37
Factor:							
A. Lack of market - total.	8	5	4	4	2	5	28
Product, where specified:							
1. Cottage cheese.....	8	4	4	3	1	4	24
2. Ice cream or ice cream mix.....	6	4	3	2	1	3	19
3. Whole milk powder..	---	---	---	1	---	---	1
4. Condensed.....	1	1	1	---	---	1	4
B. Shortage of milk - total	2	1	---	3	2	1	9
1. Year-round.....	---	1	---	1	---	---	2
2. Seasonal.....	2	---	---	2	2	1	7
Product, where specified:							
(a) Butter.....	1	---	---	---	1	---	2
(b) Cottage cheese	---	---	---	---	1	---	1
(c) Evaporated....	---	---	---	---	---	1	1
(d) Ice cream or ice cream mix	---	---	---	---	---	1	1
C. More economical to purchase - total.....	---	---	---	2	1	---	3
1. From other handlers	---	---	---	1	1	---	2
(a) Nonfat dry milk.....	---	---	---	1	---	---	1
(b) Cottage cheese	---	---	---	---	1	---	1
2. From nonregulated areas.....	---	---	---	1	---	---	1
(a) Nonfat dry milk.....	---	---	---	1	---	---	1

Table 5.--Factors which limited the use of milk processing facilities, by type of plant

Item	Type of plant			
	Fluid and manufacturing	Large, basically fluid	Small, basically fluid	Total
Total plants by type	9	22	6	37
Factor:				
A. Lack of market - total	6	17	5	28
Product, where specified:				
1. Cottage cheese	5	14	5	24
2. Ice cream or ice cream mix	2	14	3	19
3. Whole milk powder	1	---	---	1
4. Condensed	3	1	---	4
B. Shortage of milk - total	3	6	---	9
1. Year-round	2	---	---	2
2. Seasonal	1	6	---	7
Product, where specified:				
(a) Butter	1	1	---	2
(b) Evaporated	1	---	---	1
(c) Cottage cheese	---	1	---	1
(d) Ice cream or ice cream mix	---	1	---	1
C. More economical to purchase - total	---	2	1	3
1. Other handlers	---	1	1	2
(a) Nonfat dry milk	---	1	---	1
(b) Cottage cheese	---	1	---	1
2. Nonregulated areas	---	1	---	1
(a) Nonfat dry milk	---	1	---	1

Among markets, shortages of milk were relatively more important as a controlling factor in Tulsa-Muskogee; only in Oklahoma City and Tulsa-Muskogee did handlers consider it more economical to purchase than to process. In Wichita, no plants reported shortages of milk as a controlling factor, probably as a result of the full-supply arrangements between the producers' association and the distributors.

SALES OUTLETS FOR DAIRY PRODUCTS

The amount of Class II milk that a plant is willing to process is determined in part by its facilities. But perhaps of greater importance is the plant's sales outlets for dairy products. Direct sales to home delivery or wholesale customers are the only outlets for some plants. Other plants have outlets to other handlers both inside and outside their own marketing areas. Out-of-market sales of fluid milk are important because other dairy products are commonly sold in conjunction with fluid milk. Large out-of-market sales of higher value products reduce the amount of milk going to residual uses.

The most important outlet for dairy products in the area studied was direct sales to home-delivery and wholesale customers. The second most important outlet was for the plant's own use for further processing into other dairy products. This would be expected of plants that were primarily fluid-milk distributors. Fluid sales, almost all direct sales, accounted for 75 percent of the total receipts of approved milk; sales outside the individual marketing areas were of considerable importance in some markets (table 6).

Table 6.--Fluid sales as percentage of approved milk receipts

Market	Inside marketing area	Outside marketing area	Total
Oklahoma City	69.6	12.2	81.8
Topeka	50.4	28.7	79.1
Tulsa-Muskogee	56.8	18.8	75.6
Wichita	59.1	14.3	73.4
Kansas City	68.1	5.0	73.1
Neosho Valley	70.1	2.3	72.4
Weighted average, 6 markets	64.2	11.0	75.2

Sales to other handlers, either within the individual marketing area or outside, were relatively unimportant for most of the handlers.

The relative importance of the various sales outlets is shown by the fact that, with but two exceptions, 12/ every plant that produced a commodity also made direct sales of, or further processed, that same commodity. Twenty-four plants produced ice cream; all of these plants sold ice cream directly, but only 5 sold to other handlers. Direct sales of ice cream mix and cottage cheese were much more important than sales of these products to other handlers. Sales of butter, condensed milk products, and nonfat dry milk to other handlers were of major importance; in terms of total facilities used for producing these products, 2 were used only for production for sales to other handlers, 52 were used for production for sales to others, for direct sales and their own use in further processing, and 66 were used exclusively for production for direct sales and their own use (table 7).

For sales made to other handlers, local handlers were the most important outlet, particularly for cottage cheese, ice cream, and ice cream mix. Sales into unregulated markets were second in importance on an overall basis, but were the most important outlet for butter. Handlers in other regulated markets were the least important outlet. Nonaffiliated handlers were a much more frequent market than were affiliated handlers. 13/

Among the different types of plants, the large fluid and manufacturing plants were much the more dependent on other handlers for sales outlets. Sales to out-of-market handlers, as percentages of total sales of manufactured dairy products, varied from a low of 8 to a high of 80. The 9 large manufacturing plants utilized a total of 49 manufacturing facilities for producing nonfluid dairy products; 30 of these facilities, or about 65 percent, were used in part to process dairy products for sale to other handlers. The large basically fluid plants used a total of 57 facilities, but only 19, or about 33 percent, were used to produce for sale to other handlers. Comparable data for the 6 small basically fluid plants were 16 and 5 facilities, or about 32 percent (table 8).

Among markets, plants in Topeka included in this study made sales in 7 other Federal order markets; Tulsa-Muskogee, at the other extreme, had no plants included in this study that sold in other such markets. No plants in other markets sold into the Topeka market, but all other markets sold into the Tulsa market (table 9).

PURCHASES OF MANUFACTURED DAIRY PRODUCTS

Purchases of dairy products are an indicator of several things: Purchases to complement a plant's own line of products indicate the desire to sell a full line and a belief that buying from others is more profitable than owning and

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12/ Butter and nonfat dry milk, spray process.

13/ This resulted at least in part from the fact that of the 18 plants which reported sales to other handlers, only 5 were affiliated with other dairy plants.

Table 7.--Sales outlets for manufactured dairy products: Number of handlers reporting designated outlets (for 37 handlers)

Product	Sales to other handlers						Direct sales and own use
	Within seller's marketing area	In other Federal-order markets	In unregulated markets	Total sellers to other handlers	Is purchasing handler affiliated with seller: Yes	Is purchasing handler affiliated with seller: No	
Butter	4	6	8	9	2	9	8
Cheese, cheddar	1	1	1	1	1	1	1
Cheese, cottage	12	3	5	15	3	12	33
Cheese, all other	1	---	1	1	1	---	1
Condensed milk products	4	3	4	5	1	5	8
Cream, aerated	1	1	1	1	1	1	1
Ice cream	4	---	1	5	---	5	24
Ice cream mix	8	1	3	10	4	7	30
Nonfat dry milk - roller	1	1	1	1	---	1	1
Nonfat dry milk - spray	5	5	4	5	1	5	4
Whole milk powder	---	1	1	1	---	1	1

Table 8.--Sales outlets for manufactured dairy products: Number of handlers reporting designated outlets (by type of plant)

Item	Fluid and manufacturing		Large, basically fluid		Small, basically fluid		Total	
	Sold to other handlers	Direct sales and own use	Sold to other handlers	Direct sales and own use	Sold to other handlers	Direct sales and own use	Sold to other handlers	Direct sales and own use
Number of plants in class	9		22		6		37	
Product:								
Butter	7	6	1	1	1	1	9	8
Cheese, cheddar	1	1	---	---	---	---	1	1
Cheese, cottage	7	9	8	19	---	5	15	33
Cheese, all other	---	---	1	1	---	---	1	1
Condensed milk products	4	6	1	2	---	---	5	8
Cream, aerated	1	1	---	---	---	---	1	1
Ice cream	---	5	3	14	2	5	5	24
Ice cream mix	3	7	5	18	2	5	10	30
Nonfat dry milk- roller	1	1	---	---	---	---	1	1
Nonfat dry milk - spray	5	4	---	---	---	---	5	4
Whole milk powder	1	1	---	---	---	---	1	1

Table 9.--Intermarket transactions among milk markets: Number of handlers

Selling market	Market outlet							
	Kansas City	Topeka	Wichita	Oklahoma City	Tulsa-Muskogee	Neosho Valley	Other 1/	Total
Kansas City	0	---	1	---	1	---	1	3
Topeka	2	0	1	1	1	1	1	7
Wichita	---	---	0	1	1	---	---	2
Oklahoma City	---	---	---	0	1	---	1	2
Tulsa-Muskogee	---	---	---	---	0	---	---	---
Neosho Valley	1	---	---	1	1	0	1	4
Total	3	---	2	3	5	1	4	18

1/ Includes Texas markets; Columbus, Ohio; Paducah, Ky.; New York, N. Y.; and Springfield, Mo.

operating producing facilities. Purchases to add to a plant's production of certain products indicate insufficient facilities or milk supply to meet maximum requirements. Purchases within the market indicate the pattern of ownership of facilities among plants. Purchases outside the market indicate a reduction in the market for producers' milk within the area or perhaps an imbalance of supply and needs for milk.

The pattern of purchases of dairy products, considered along with processing for own use, indicates that most fluid-milk distributors consider cottage cheese, ice cream items, and butter as necessary in their product lines. As indicated earlier, cottage cheese and ice cream were manufactured by a large majority of the companies, but ice cream novelties and butter were manufactured by only a few. The pattern of purchases of dairy products for resale was the reverse. Ice cream novelties were a special case; these products require expensive specialized equipment, and consequently were produced by only a few companies, which sold to many other companies (table 10). Other dairy products were handled by only a relatively few companies: For example, only 8 sold cheese other than cottage cheese, and only 9 sold aerated cream products. A total of 32 companies produced or purchased ice cream mix. However, the data do not show how many companies used ice cream mix exclusively for processing into ice cream or eggnog and how many sold it. Partial data indicate that not more than 15 companies sold ice cream mix as such.

More companies handled cottage cheese and butter than handled ice cream items. Several factors singly or in combination may have been involved: Ice cream requires special low-temperature equipment for processing and distributing; sales outlets for ice cream may differ from those for fluid milk; ice cream items were produced and distributed by nonpool specialized plants which were, in some cases, affiliates of fluid-milk plants. Cottage cheese, on the other hand, was seldom produced in specialized plants and neither cottage cheese nor butter requires specialized equipment for distribution. The differences that occurred among markets probably resulted from competitive conditions or traditional marketing practices.

Table 10.--Manufacture of dairy products for own use, and purchases of certain dairy products: Number of plants out of total of 43

	Manufactured for own use	Purchased 1/	Total handling
Cottage cheese	33	7	40
Ice cream	23	7	30
Ice cream novelties	3	20	23
Butter	8	27	35

1/ Differs from data shown in table 11, which include purchases to supplement own production.

Most dairy products were purchased on a regular year-round basis (table 11). Seasonal purchasing, except of ice cream novelties, was to supplement rather than complement the plant's own production, and was important only for cottage cheese curd and ice cream mix. For both these products, the peak marketing season occurred during the summer months when the milk supply was lowest.

Generally, local sources were most important for those dairy products commonly produced by a large number of plants; for example, nearly all purchases of cottage cheese, both curd and creamed, and of ice cream were from local sources. Outside sources were more important for products commonly produced in specialized plants. Purchases from affiliates were more frequent for butter, regular cheese, ice cream, and aerated cream.

Considering the numbers and types of plants involved, handlers in the Tulsa-Muskogee market were the most frequent purchasers of dairy products, and handlers in the Topeka market were the least frequent (table 12). This relationship might be expected from the data on facilities used to produce nonfluid dairy products, because it was the general practice of fluid-milk plants to handle cottage cheese, ice cream items, and butter (table 3). Both facilities used and purchases were relatively high in Wichita, indicating that distributors in this market handled a more complete line of products than did distributors in other markets. This probably resulted from the fact that there were no competing plants in the immediate area that sold comparable products processed from excess approved milk and unapproved milk.

Topeka was, by far, the most important out-of-market, regulated-area source of purchased dairy products; 10 handlers in other markets purchased from Topeka, while only 7, in total, purchased from the other 5 markets combined (table 13). At the other extreme, none of the handlers in other markets purchased dairy products from the Tulsa-Muskogee market, and only 1 purchased from Oklahoma City or from Neosho Valley.

Four of the 9 plants with extensive manufacturing facilities made very limited purchases of dairy products. Their own production covered a considerably broader line than that of other plants, and their facilities and their milk supply, approved and unapproved combined, were generally more than sufficient to meet their own needs. None of these plants purchased cottage cheese or ice cream.

Of the 22 large, primarily fluid plants, all handled cottage cheese, 20 handled butter, and 19 handled ice cream. Two of the plants purchased cottage cheese to add to their line of products and 6 purchased to supplement their own production; 19 purchased butter; and 5 purchased ice cream. These plants were much more dependent on purchased items to round out their product line.

The small, primarily fluid plants have basically the same production and purchase patterns as the larger plants of the same type. Of the 6, all handled cottage cheese, 5 handled butter, and 5 handled ice cream. Two of the plants purchased cottage cheese, 4 purchased butter, and none purchased ice cream.

Table 11.--Number of plants which made purchases of manufactured dairy products, by source of purchase

Product	Year-round	Seasonally	Where purchased			Purchased from affiliates	
			Within own marketing area	In other Federal-order markets	In non-Federal-order markets	Yes	No
Butter	28	---	12	9	12	13	17
Cottage cheese, creamed	5	---	5	---	---	1	4
Cottage cheese, curd	5	5	8	---	2	1	9
Cheese, all other	8	---	2	4	6	5	5
Cream, aerated	8	---	1	7	---	4	4
Ice cream	7	---	4	1	2	4	3
Ice cream mix	---	4	1	---	3	1	3
Ice cream novelties	19	1	13	5	3	6	15
Other	6	1	3	2	2	---	7

Table 12.--Number of plants which purchased dairy products, by markets

Product	Market						
	Kansas City	Topeka	Wichita	Oklahoma City	Tulsa-Muskogee	Neosho Valley	Total 6 markets
Total plants	9	6	6	7	6	9	43
Product:							
Butter	7	2	5	6	4	4	28
Cottage cheese, creamed	1	1	1	---	2	---	5
Cottage cheese, curd	1	---	2	2	3	2	10
Cheese, all other	1	1	2	---	1	3	8
Cream, aerated	1	1	4	---	---	2	8
Ice cream	1	1	2	1	1	1	7
Ice cream mix	---	---	---	---	1	1	2
Ice cream novelties	2	2	4	3	5	4	20
Other	3	---	---	1	1	2	7

Table 13.--Sources of out-of-market purchased dairy products: Number of plants in each market purchasing from each source

Purchasing market	Source of purchases							
	Kansas City	Topeka	Wichita	Oklahoma City	Tulsa-Muskogee	Neosho Valley	Other	Total
Kansas City	0	2	---	---	---	---	1	3
Topeka	1	0	1	---	---	---	---	2
Wichita	---	4	0	---	---	1	---	5
Oklahoma City	---	1	---	0	---	---	1	2
Tulsa-Muskogee	---	1	1	1	0	---	---	3
Neosho Valley	1	2	1	---	---	0	3	7
Total	2	10	3	1	---	1	5	22

The small, exclusively fluid plants handled a relatively smaller product line and were, of course, completely dependent on purchases for nonfluid items; 5 of the 6 handled cottage cheese, 4 handled butter, and 2 handled ice cream.

PROCUREMENT POLICIES

The procurement policies actually practiced and the procurement policies believed to be best were very much influenced by, and were an indication of, marketing conditions. Especially important was the relative influence exerted by individual firms or producers' cooperatives in the individual markets. Where a firm or cooperative was in a position to determine to a large extent who was to receive milk and how the milk supply was to be used, the procurement practices strongly reflected the degree to which that firm's or cooperative's control was matched by its commensurate assumption of responsibility for a full supply of milk to all handlers and for disposing of excess supply. So, too, were reflected the relations between producers' cooperatives and handlers. Procurement practices reflected the presence of conflict between producers' cooperatives and handlers or between cooperatives when there were more than one in a single market. Under harmonious conditions, procurement practices generally were to obtain from producers a sufficient supply, and not worry about obtaining supplementary supplies that might be needed, or about disposing of excess supplies. Under varying degrees of conflict, procurement practices generally followed 1 of 2 patterns: Milk was obtained on a very tight basis because of difficulty in disposing of excess supplies, or as much milk as possible was obtained because of difficulties in getting supplemental supplies. The latter pattern was particularly important in markets where cooperatives had, in the recent past, refused, for various reasons, to sell milk to some individual handlers.

Procurement practices also varied somewhat according to the type of operation of the individual plant. Generally, smaller plants had tighter procurement policies than did larger plants; perhaps it would be more accurate to say that plants with limited facilities and limited markets followed the more restricted policies. Plants with limited manufacturing facilities most frequently purchased sufficient supplies from regular producers for Class I and Class II processing operations. Plants with extensive manufacturing facilities usually purchased as much as was available from producers. 14/ Thus, for any one plant, many factors, some perhaps conflicting, determined the procurement practices followed or preferred. Consideration will first be given to policies of plants on the basis of type of operation (table 14).

All 6 of the small plants with exclusively fluid operations purchased regularly from producers less than enough for Class I needs on a year-round basis or only enough for Class I needs in the short season. 15/ Such policies would

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14/ Other factors were involved. For instance, operating cooperatives took all of their producers' milk as a matter of policy, and need or facilities were not involved.

15/ Two obtained less than Class I needs; 4 obtained enough for Class I needs in short seasons.

Table 14.--Procurement of milk from regular approved producers, 1/ (by type of plant)

Procurement policy	Fluid and manufacturing	Large, primarily fluid	Small, primarily fluid	Small, exclusively fluid	Total
Total number of plants	9	22	6	6	43
A. Less than Class I needs...	1	2/1	---	2	3/4
Supplemental supplies from:					
1. Producers' organizations.....	---	1	---	---	1
2. Other handlers.....	---	1	---	2	3
3. Outside sources.....	1	1	---	---	2
B. Class I needs in short seasons, excess of Class I in other seasons.....	2	2/5	---	4	3/11
Class II needs from:					
1. Unapproved producers..	2	2	---	4/	4
2. Other handlers.....	1	2	---	4/	3
3. Other.....	---	---	---	4/	---
C. Class I needs and certain Class II needs.....	6	2/13	4	4/	3/23
Class II products:					
1. Cottage cheese and/or ice cream.....	6	13	4	---	23
2. Other.....	4	---	---	---	4
D. More than can be utilized in own plant, throughout the year.....	---	2/4	2	---	3/6

1/ Based upon response to question, "Which of the following most closely describes your procurement of milk during the past 2 years?"

2/ Adds to more than the total of 22 because 1 company changed procurement policy during the period involved.

3/ Adds to more than 43. See footnote 2 above.

4/ No Class II operations.

be expected, since any milk received that was excess to Class I needs was also excess to total plant utilization and had to be disposed of by shipping to another plant. All 6 of the small plants preferred to continue these procurement practices. Those who considered it the best policy to obtain less than Class I needs gave as a reason that it was easier and less expensive to obtain supplemental supplies than to dispose of excess supplies. Those who considered it best to obtain enough for Class I needs in the short season stated that this was the only way to be assured of enough milk--that disposing of surplus was much less of a problem than obtaining supplemental supplies. These preferred policies, which appear to be in direct opposition to each other, are explained by other factors relating to the control of the milk supply or other conditions in the individual markets.

Of the remaining 37 plants, procurement from producers was as follows: Less than Class I needs, 2; enough for Class I needs in the short season, 7; more than could be utilized in their own plants throughout the year, 6; and sufficient for Class I needs and for certain Class II needs, 23. 16/ All of the plants in this last group used approved milk to produce cottage cheese and ice cream or ice cream mix; in addition, 4 also used approved milk for other manufactured dairy products. That this was a preferred method of operation was evidenced by the fact that 29, or about 80 percent of the 37 plants with manufacturing operation, believed that such a procurement policy was best for their operations. 17/ Of the other 8 plants, 4 preferred to procure from producers sufficient milk for Class I needs in the short season with some surplus in other seasons; for 2 plants, the reason given was that ungraded milk was available for Class II needs; at the other 2 plants, it was stated that procuring supplementary milk was easier and less expensive than disposing of surplus. The remaining 4 plants preferred to procure, on a year-round basis, more milk than could be utilized in their own plants; for 2, the reason given was that this was the only way to be assured of enough for needs; for the other 2, the reason was that it was easy to dispose of excess (table 15).

In Kansas City, marketing conditions were such that most handlers believed that excess milk, including day-to-day excess, was expensive to handle and that supplementary milk was difficult and expensive to obtain (table 16). One small plant which had no manufacturing facilities purchased on the basis of Class I needs in the short season with excess in other seasons; this company preferred to continue this policy, stating that the loss on excess milk was less than the cost of obtaining supplemental milk (table 17). Seven plants purchased graded milk for Class I and certain Class II products, and all wished to continue this policy. The reasons stated were: For 4, it was satisfactory for operations; for 1, receipts of diverted excess plus ungraded milk provided a supply for

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16/ Adds to more than 37 because 1 plant changed policy during the period involved.

17/ The type of operation, excluding the 6 companies with no Class II processing, was not a factor; this was the preferred procurement policy for 7 of the 9 large fluid and manufacturing plants, 17 of the 22 large, primarily fluid plants, and all 6 of the small, primarily fluid plants.

Table 15.--Number of plants considering specified procurement policy as best for operations, for supply coming from regular approved producers, by type of plant.

Procurement policy	Fluid and manufacturing	Large, primarily fluid	Small, primarily fluid	Small, exclusively fluid	Total
Total number of plants	9	22	6	6	43
A. Less than Class I needs	---	---	---	2	2
B. Class I needs in short season, excess of Class I in other seasons	2	2	---	4	8
C. Class I needs and certain Class II needs	7	17	5	---	29
D. More than can be utilized in own plant throughout the year	---	3	1	---	4

manufactured products other than cottage cheese and ice cream; for 1 plant, this policy was believed best because experience indicated that it was cheaper to obtain supplemental milk from Wisconsin than from local sources. One plant had shifted from excess supply to an adequate or slightly short supply on the basis that it was cheaper to obtain supplemental supply from Wisconsin than to dispose of an excess. One small company obtained an excess supply the year-round and wished to continue to do so. This company was a relatively very heavy user of cream and had found it cheaper to sell at a loss or dump skim milk than to obtain the additional cream that would have been needed if any other purchasing program were followed.

In Topeka, neither supplemental nor excess supplies presented any difficult problems or expenses. Under most circumstances, milk moved easily between plants. Two of the 6 plants obtained from producers less than Class I needs and obtained supplemental supplies from the producers' organization, other handlers, or from Chicago. The 1 plant which obtained supplemental milk from Chicago had expanded rapidly in recent years and had experienced some difficulty in obtaining sufficient milk locally during the summer. Four plants obtained from regular producers a sufficient supply for Class I and certain Class II needs. All 6 of the firms stated that their preferred method of operation was to obtain directly a sufficient supply for Class I and Class II needs. Three gave the

Table 16.--Number of plants following specified policies in procurement of milk from regular approved producers, 1/ by markets

Procurement policy	Markets						
	Kansas City	Topeka	Wichita	Oklahoma City	Tulsa-Muskogee	Neosho Valley	Total, 6 markets
Total number of plants	9	6	6	7	6	9	43
A. Less than Class I needs. Supplemental supplies from:	---	2	2	---	---	---	2/4
1. Producers' organizations	---	1	---	---	---	---	1
2. Other handlers	---	1	2	---	---	---	3
3. Outside sources	---	1	---	---	---	---	1
B. Class I needs in short season, excess of Class I in other seasons	3/1	---	---	1	2	7	2/11
Class II needs from:							
1. Unapproved producers	4/	---	---	4/	4/	4	4
2. Other handlers	4/	---	---	4/	4/	3	3
3. Other	4/	---	---	4/	4/	---	---
C. Class I needs and certain Class II needs	3/7	4	3	5	3	1	2/23
Class II products:							
1. Cottage cheese and/or ice cream	7	4	3	5	3	---	22
2. Other	2	1	1	---	---	---	4
D. More than can be utilized in own plant, throughout the year	3/2	---	1	1	1	1	2/6

1/ Based upon response to question, "Which of the following most closely describes your procurement of milk during the past 2 years?"

2/ Adds to more than the total of 9 because one company changed policy during the period involved.

3/ Adds to more than 43. See footnote 2.

4/ No Class II operations.

Table 17.--Number of plants whose operators considered specified procurement policy as best for operations, with supply coming from regular approved producers, by markets

Procurement policy	Kansas City	Topeka	Wichita	Oklahoma City	Tulsa-Muskogee	Neosho Valley	Total all markets
Total number of plants	9	6	6	7	6	9	43
A. Less than Class I needs	---	---	2	---	---	---	2
B. Class I needs in short season, excess of Class I in other seasons	1	---	---	1	1	5	8
C. Class I needs and certain Class II needs	7	6	3	6	3	4	29
D. More than can be utilized in own plant, throughout the year	1	---	1	---	2	---	4

reason that supplemental milk was relatively more expensive than seasonal excesses; this group includes the 2 companies that were purchasing less than present Class I requirements. The other 3 believed this procurement satisfactory for their business and for producers; 2 stated the additional reason that seasonal excess supplies were no problem.

In the Wichita market, neither insufficient supplies nor excess supplies were a problem to milk processing plants. The handling of the milk supply was indicative of both a high degree of control and a sense of responsibility. Handlers were supplied with the amount needed for their operations; excess supplies of milk were, in most instances, diverted in the country to manufacturing plants. There were adequate and competitive outlets for excess supplies. Two small plants in Wichita purchased directly from producers less than their Class I needs and preferred to continue this procurement practice. Their preference was explained by 2 facts: First neither had any Class II operations;

second, and perhaps most important, both had rather unusual arrangements for assuring a needed supply. 18/

Three plants, all relatively large with some Class II operations, procured from producers sufficient milk for Class I and Class II operations. They preferred this method of operation for the following reasons: This handling of the milk supply assured an adequate supply at most times, (2 indicated some shortage for Class II operations in the summer months) and eliminated any problems of disposing of surplus during the flush production months. One plant obtained an excess supply and wished to continue to do so because of some past difficulties in obtaining sufficient milk for some Class II products.

In Oklahoma City, most handlers believed that it was difficult and expensive to obtain supplemental supplies; on the other hand, excess supplies could be disposed of easily and at no expense to the seller. Some of the milk supply was directed to highest classification use and a small amount was diverted to manufacturing plants. Facilities for handling excess were more than adequate; 2 plants had idle capacity the year-round. One plant, which had no Class II facilities, procured from producers a sufficient supply for Class I needs in the short season, with excess in other seasons, and wished to continue this policy because procuring supplemental supplies was considerably more expensive than was disposing of excess.

Five handlers procured a sufficient supply for all of Class I needs and certain Class II products; 1 company procured a year-round supply in excess of that which could be processed in its own plant. All 6 of these handlers preferred a policy of procuring for Class I needs and certain Class II needs, and gave the following reasons: It was best for their operations and assured the producer of a market for his milk. A large manufacturing plant gave the further reason that it could process all the milk it received. The other 5 handlers gave the additional reasons that supplemental milk supplies were expensive, while milk excess to total plant usage could be disposed of at no loss to the seller.

The marketing situation in Tulsa-Muskogee was such that handlers generally believed that it was difficult to be certain of a normal supply and very difficult to obtain supplemental supplies. The producers' association had withheld milk from some plants several times in the past, and at the time of this study was withholding milk from 1 handler. Excess supplies, on the other hand, presented no major problems.

18/ Each plant had only a few producers and consequently had no milk pickup routes of their own; their milk was brought in on trucks hauling to a large plant. The trucks stopped first at the small plant and dropped off the amount of milk needed; the rest was taken to the large plant. Producer payments were not divided between the small plants and the large plant; at the end of the month, each small plant settled with the large plant by means of an interhandler transfer. By this arrangement, the small plants were always assured of an adequate supply and never had any excess. The larger plant received all of the excess of the small plants, a much larger amount, on an annual basis, than the Class I supplemental supplies furnished to the small plants.

One plant which had exclusively Class I operations procured from producers enough for Class I in the short season, with subsequent surpluses in other seasons, and preferred to continue to do so, stating that this was the only way to be sure of a sufficient supply for Class I requirements. One plant with some Class II operations procured from producers enough for Class I needs in the short season, with excess of Class I in the flush seasons, but preferred to obtain sufficient supplies for both Class I and Class II needs in order to be certain of supply. Two plants obtained both Class I and Class II needs from producers and preferred to continue to do so, reporting that this was the only way to be sure of even Class I needs during the short season. One plant obtaining Class I and Class II needs from producers, and 1 plant obtaining supplies in excess of total requirements preferred the excess-supply policy, giving as their reasons that this was the only way to be sure of supply and that disposing of the excess was a much smaller problem than obtaining supplemental supplies.

One factor dominated the procurement policy of companies in the Neosho Valley marketing area: The year-round supply of milk was more than ample for fluid operations. Approved milk supplies considerably exceeded Class I utilization within the area, and a large supply of unapproved milk was available for Class II products. Seven plants purchased from producers only enough for Class I needs in the short season, with consequent excesses in other seasons; Class II needs were obtained from unapproved producers or other handlers. One plant purchased enough for all Class I and certain Class II needs. One plant purchased a supply in excess of total plant utilization. 19/

Five of the 9 plants preferred to purchase on the basis of only enough milk for Class I needs. The reasons given were: For 1, which had no Class II operations, surplus disposal problems would be minimized; for 3, the supply of milk from approved producers was steady, and milk from unapproved producers was readily available for Class II products; for 1, regular receipts of a large supply from ungraded producers provided milk for Class II products. Four plants would prefer to obtain from producers sufficient milk for all Class I needs and for certain Class II needs. Three believed this would be best because they had had some problems with obtaining day-to-day Class I needs during the summer (even in these instances, there was no indicated problem of obtaining milk for Class II products) and 1, a cooperative with both fluid and extensive manufacturing operations, believed this policy best on the basis that its long-run interests would be best served by holding its producers.

PURCHASES OF MILK FROM OTHER HANDLERS FOR PROCESSING INTO CLASS II PRODUCTS

A measure of the market for Class II milk is the balance of receipts and utilization of milk by the individual plant. Purchases of milk from other handlers may be an indication of inefficiency and additional costs for the entire

19/ By comparison with other markets: Seven of 9 plants in Neosho Valley followed a policy of purchasing from producers only enough milk for Class I needs, while but 8 of 34 plants in the other 5 markets followed this policy.

market. Prices, terms, and conditions of purchases are all measures of the efficiency of the market and also of the status of the individual plant in the market.

Most plants in the area studied purchased milk from other handlers for processing into Class II products. The amounts, terms, and methods of such purchases were affected by the type of plant, the organization of the market, procurement practices, and supply-demand relationships. Of the total of 37 plants which processed Class II products, 23 supplemented direct receipts from producers with supplies obtained from other handlers. Most frequent methods and terms of purchase were: Spot purchases, 16 plants; bought f. o. b. buyer's plant, 15; paid hauling charges, 9; did some or all of own hauling, 8; paid handling charges, 11. Prices paid varied: Six paid Class I prices for some milk, 11 paid more than Class II, 7 paid Class II, and 6 paid prices equal to those announced by nearby manufacturing plants.

All 9 of the plants with regular fluid and manufacturing operations purchased both approved and unapproved milk from dairy farmers. Their supply of direct receipts of milk were normally sufficient for their regular requirements. While they may have preferred to receive enough approved milk for Class I for certain Class II uses, they did have a supply of unapproved milk which could be used for Class II products when the approved supply was short. Consequently, purchases from other handlers consisted mainly of utilizing, in regular manufactured products, milk that was excess to the total requirements of the seller. Most of such purchases occurred in the flush season, a buyer's market. These circumstances largely account for the fact that purchases were made on bases that would be considered favorable to the buyer (table 18).

One plant had a contract and 3 had working agreements for purchasing; 4 made spot purchases. 20/ Each of the 3 plants who purchased on working agreements also sold supplemental milk, on working agreements, to other handlers during the short season. Terms, generally, were favorable to the purchasing plant. Seven purchased f. o. b. buyer's plant, and only 2 purchased any milk f. o. b. seller's plant. Only 3 plants paid any hauling charges or did their own hauling. Three purchased at the Class II price and 4 at the announced manufacturing price.

The basically fluid-milk plants, in most instances, received only approved milk from dairy farmers, and so could not turn to unapproved milk when the approved supply was not sufficient for Class I and Class II requirements. 21/ Supplemental supplies were needed most often in the short season, a seller's market. Consequently, the methods and terms of purchase by these plants reflected conditions that were more favorable to the seller.

20/ The total of 8 purchasing methods exceeds the number of plants making purchases because more than 1 method was used by a single company. Apparent discrepancies in other categories arise from the same reason.

21/ In some cases, but not all, local health regulations do not permit any receipts or use of unapproved milk in a fluid-milk plant.

Table 18.--Number of plants procuring milk from other handlers for processing into Class II products (by type of plant)

Purchasing for Class II usage	Type of plant			
	Fluid and manufacturing	Large, primarily fluid	Small, primarily fluid	Total 1/
Total plants in class	9	22	6	37
Total purchasing from other handlers	7	14	2	23
Purchasing method:				
Contract	1	---	---	1
Spot purchases	4	10	2	16
Working agreement	3	4	---	7
Terms:				
F. o. b. buyer's plant	7	7	1	15
F. o. b. seller's plant	2	8	1	11
Hauling charges per 100 lb. paid by buyer:				
Amount: $0.15 or less	---	1	---	1
$0.16 - $0.25	1	5	---	6
$0.21 - $0.25	---	1	---	1
Over $0.25	1	---	---	1
Buyer did own hauling	2	5	1	8
Paid handling charge	---	9	1	10
Prices paid:				
Class I price	---	4	1	5
Class II price:				
Same as	3	4	---	7
More than	---	10	1	11
Announced manufacturing price:				
Same as	4	2	---	6
More than	---	---	---	---

1/ Plants with no Class II operations not included.

Of the 28 basically fluid plants, 16 purchased milk from other handlers for processing into Class II products. Twelve depended on spot purchases and 4 used working agreements; none had contracts. Eight plants purchased f. o. b. seller's plant, 7 purchased f. o. b. buyer's plant; 1 made some purchases on both terms. Seven plants paid hauling charges and 6 did all or part of their own hauling; only 3 had no hauling expense. Ten of the 16 paid plant handling charges. Five paid the Class I price for some of the supplemental supplies; 11 paid more than the Class II price. Only 4 plants were able to obtain milk from other handlers at the Class II price; 2 obtained some at manufacturing prices.

In summary, when the fluid and manufacturing plants purchased milk from other handlers, the terms and prices were most commonly f. o. b. buyer's plant, with no hauling or handling charge, and at the Class II or manufacturing price. In contrast, when the basically fluid plants purchased milk from other handlers, the terms and prices were most commonly either f. o. b. buyer's or f. o. b. seller's plant, with hauling expenses and handling charge, and at more than the Class II price.

Methods, terms, and costs of supplemental purchases also varied considerably among the individual markets. Paradoxically, the smallest number of such transactions occurred in 1 market where supplemental supplies were easy to obtain and in 1 market where supplemental supplies were difficult to obtain. In Wichita, the bargaining cooperative performed the function of a balance wheel for the milk supply in the market, and in most instances furnished extra milk to plants whenever it was needed; in additon, the cooperative also diverted excess milk to nonpool manufacturing plants. In Tulsa, on the other hand, supplemental milk was difficult to obtain and most plants followed a procurement policy of obtaining from producers a sufficient supply for all requirements; when milk supplies were short, Tulsa plants tended to purchase Class II products from nonpool plants or outside sources (table 19).

There were other major differences among the markets. In Topeka and Neosho Valley, purchases from other handlers were relatively more frequent. In these 2 markets, supplemental milk was readily available, but at a price; except for the fluid and manufacturing plants, purchasers paid hauling costs, plant handling charges, and a price above the Class II order price.

EXCESS SUPPLY FROM PRODUCERS

Purchases of milk from other handlers measure one side of the imbalance of receipts from producers compared with needs. The receipt of milk from producers in excess of total needs measures the other side.

Just as plants had problems of shortages of milk from producers at some times during the year, so too they had problems of excess milk from producers at other times. 22/ In terms of the number of plants involved and the time periods covered,

22/ The term excess, as used here, means receipts from regular producers of more milk than was utilized for all purposes at the receiving plant, whether such excess was physically received or diverted.

Table 19.--Number of plants procuring milk from other handlers for processing into Class II products, by markets

Number of handlers	Markets						
	Kansas City	Topeka	Wichita	Oklahoma City	Tulsa-Muskogee	Neosho Valley	Total, 6 markets
Total number of handlers 1/	8	6	4	6	5	8	37
Number purchasing from other handlers	4	5	2	4	2	6	23
Purchasing method:							
Contract	1	---	---	---	---	---	1
Spot purchases	2	3	1	3	2	5	16
Working agreements	1	2	2	1	---	1	7
Terms:							
F. o. b. buyer's plant	3	3	2	3	1	3	15
F. o. b. seller's plant	1	3	1	2	1	3	11
Hauling charge per 100 lb. paid by buyer:							
Amount: $0.15 or less	---	---	---	---	---	1	1
$0.16 - $0.20	2	2	---	1	---	1	6
$0.21 - $0.25	1	---	---	---	---	---	1
Over $0.25	---	---	---	1	---	---	1
Buyer did own hauling	2	2	2	---	1	1	8
Paid handling charge	2	3	---	---	1	4	10
Prices paid:							
Class I price	1	---	1	---	---	3	5
Class II price:							
Same as	1	1	2	2	1	---	7
More than	2	4	---	---	1	4	11
Announced manufacturing price:							
Same as	1	---	1	2	---	2	6
More than	---	---	---	---	---	---	---

1/ Plants with no Class II operations not included.

excess supply problems were more serious than were shortage problems. Thirty-five, or over 80 percent, of the plants had excess receipts. The problem was indicated even more sharply from another point of view: Excluding those 5 plants which had extensive Class II operations, every handler but 3 (35 out of 38) had excess receipts for varying periods during the year.

The amount and duration of excess receipts varied widely between individual plants and between types of plants. To an unknown degree the excesses arose from the nature of the fluid milk operation. Daily variations in needs and fairly even day-to-day receipts generated excesses or shortages on a day-to-day basis; fairly even year-round fluid usage and wide seasonal variation in supply caused excesses and shortages on a seasonal basis. Plant management faced the problem that, in order to have enough nearly all of the time, it was necessary to have too much most of the time. This was shown by the fact that several plant managers stated that holidays and weekends caused excess problems and that a holiday falling on a Saturday or a Monday, combining the effect of a holiday and a weekend, caused special problems.

The time of excess receipts varied; it ranged from the holidays and weekends for 3 plants to year-round for 7 plants. In some markets, most of the handlers had excesses for 8 or 9 months of the year.

The ability of a plant to balance receipts and utilization tied rather closely to the extent of its Class II operation (table 20). Of the 9 large, combination fluid and manufacturing plants, only 2 had any excess receipts at any time of the year. In both these cases, the plants had specialized Class II operations, 1 producing only cottage cheese, condensed skim milk, and ice cream mix, the other producing only cottage cheese, butter, and condensed skim milk. One stated that processing facilities were inadequate for handling all the milk received at all times. The other, whose principle Class II products were condensed skim milk and ice cream mix, stated that the market would not absorb all of these products that could be produced during the flush milk production months. The other 7 plants had more extensive facilities, and processed not only all milk received directly from both approved and unapproved sources, but also large amounts of milk purchased from other plants.

In contrast to this, all 6 of the small, exclusively fluid handlers had excess receipts for fairly long periods of the year, in some cases as long as 10 months. Four stated that it was necessary to obtain, at a considerable premium, supplemental milk for Class I needs during the summer season. The difficulties in balancing receipts and utilization were, in some instances, eased by shifting producers or making special arrangements with larger handlers.

Twenty-seven of the 28 primarily fluid plants had excess receipts. For 7 plants, the excess was year-round, for 20 it ranged from holidays and weekends only to seasonally during 9 or 10 months of the year. These plants produced, primarily, only 2 Class II products, cottage cheese and ice cream. Because of the relatively short storability of these products, processing was geared to the

market rather than to the supply of milk. Twenty-five plants stated that lack of markets for products was the limiting factor on utilization of milk. One stated that it was more profitable to buy cottage cheese and ice cream mix from unregulated handlers than to utilize its own facilities for processing milk purchased at the supplemental milk price. One had inadequate facilities.

Except for those plants which had no Class II facilities, most plants in all 6 markets had adequate facilities for processing all milk received. Only 2 gave inadequate facilities as the factor controlling the amount of milk utilized, while 26 gave lack of markets as the controlling factor. This indicates that the most profitable (or the least unprofitable) operation was to sell excess milk rather than to sell excess dairy products or to purchase supplemental milk.

The information indicates no particular characteristics of the individual markets as far as excess receipts are concerned (table 21). Apparent differences, such as the relative number of handlers having surplus, resulted from the relative number of handlers included in the study that had extensive manufacturing facilities. There were, however, important differences between markets in the methods and costs of handling excess.

Table 20.--Plants having milk receipts from regular producers in excess of total plant utilization (by type of plant)

Item	Type of plant				
	Fluid and manufacturing	Large, primarily fluid	Small, primarily fluid	Small, exclusively fluid	Total
Total plants in class	9	22	6	6	43
Had excess receipts	2	21	6	6	35
Nature of excess:					
Year-round	---	5	2	---	7
Seasonal	2	16	4	6	28
Reason for excess:					
No Class II facilities	---	---	---	6	6
Inadequate facilities	1	---	1	1/	2
Lack of market for dairy products	1	20	5	1/	26
More profitable to buy Class II products	---	1	---	1/	1

1/ Not applicable.

Table 21.--Plants having milk receipts from regular producers in excess of total plant utilization, by markets

Item	Kansas City	Topeka	Wichita	Oklahoma City	Tulsa-Muskogee	Neosho Valley	Total, 6 markets
Total number of plants	9	6	6	7	6	9	43
Had excess receipts	8	4	6	5	6	6	35
Nature of excess:							
Year-round	1	1	1	---	1	3	7
Seasonal	7	3	5	5	5	3	28
Reason for excess:							
No Class II facilities	1	---	2	1	1	1	6
Inadequate facilities	---	1	---	---	1	---	2
Lack of markets for dairy products	7	3	4	3	4	5	26
More profitable to buy Class II products	---	---	---	1	---	---	1

DISPOSAL OF EXCESS RECEIPTS

Problems faced in disposing of excess receipts of producer milk arose from several factors, singly or in combination. The amount and seasonality of the excess were of major importance. Influencing factors were the procurement practices of plants, the capacity and ownership of facilities, and the degree to which a producers' cooperative or a large firm directed the use of milk and was willing to assume the responsibility for handling surplus and obtaining supplementary supplies.

Generally, excess supplies presented the fewest problems under these conditions: Adequate nearby facilities, some competition for milk for manufacturing purposes, and the presence of a marketing agency which both directed use of and assumed responsibility for the milk supply. Most problems occurred with inadequate facilities, unwillingness of manufacturing plants to accept excess from other plants, and the absence of a marketing agency that controlled and assumed responsibility for the milk supply.

The modal plant in this area disposed of excess as follows: Sold to a nonpool plant in the individual market area on a working agreement. Sales terms were f. o. b. buyer's plant and the price received was the Class II order price. 23/ Thirty-five of the 43 plants had excess supplies; they used, in 4 major classifications, 57 different outlets. The total number of outlets was much larger, since supplementary information shows that individual plants used more than 1 outlet of a particular type. 24/ Arrangements for disposing of excess milk varied widely among the different types of handlers and among the different markets.

The small, exclusively fluid plants all had excess supplies, but at the same time had the most orderly procedures for disposing of the excess. This probably resulted from two factors: First, other plants could more readily absorb the relatively small amounts of surplus from these plants; second, because of the nature of their business and because of extremely limited storage facilities for raw milk, any receipts over day-to-day needs were excess, and prearranged excess disposal was a necessity. All of these plants disposed of excess milk within the individual marketing area and all had working agreements; prices received were generally at the Class II order level (table 22).

The large fluid and manufacturing plants, as a group, had few problems with excess, since only 2 of the 9 plants received more milk at any time than could be utilized. These 2 plants specialized in producing Class II manufactured products, such as cottage cheese, condensed skim milk, and ice cream mix, and consequently were more dependent on seasonal markets than were the other 7 plants.

23/ The combination of the terms and prices received indicates that the average plant "lost money" disposing of excess supplies. In many instances, the seller had costs of receiving and hauling; in all instances, the seller had administrative costs, such as making payments to producers.

24/ For example, 1 plant disposed of excess to 5 producers' cooperatives, 2 other handlers, and 3 nonpool plants. The reported data in this instance show 3 outlets rather than 10.

Table 22.--Disposition of milk receipts from regular producers, in excess of total plant utilization (by type of plant)

Item	Type of plant				
	Fluid and manufacturing	Large, primarily fluid	Small, primarily fluid	Small, exclusively fluid	Total
Total number of plants	9	22	6	6	43
Had excess receipts	2	21	6	6	35
Disposed of to:					
Other handlers	1	8	4	4	17
Nonpool plants in area	2	12	4	2	20
Nonpool plants outside area	---	11	1	---	12
Producers' organizations	1	6	1	---	8
Sales method:					
Contract	---	---	---	---	---
Spot sales	1	13	3	1	18
Working agreement	1	11	4	6	22
Terms:					
F. o. b. seller's plant	1	5	2	2	10
F. o. b. buyer's plant	1	17	5	4	27
Price received:					
Class I	---	1/2	1/2	1/2	1/6
Class II:					
More than	---	2	1	1	4
Same as	1	10	2	4	17
Less than	1	1	---	---	2
Manufacturing:					
More than	---	1	1	---	2
Same as	---	5	1	2	8
Less than	---	1	1	---	2

1/ Sales at or above Class I prices probably indicate an imbalance of supply among plants rather than an excess supply situation.

All 6 of the small plants with Class II operations had excess receipts; however, disposal was not a particularly burdensome problem for them. This probably resulted, at least in part, from the fact that the absolute amounts of milk involved were small. Most of the excess milk from these plants was disposed of in the individual markets on working agreements. Prices received were relatively good; 3 had a few sales at manufacturing prices; other sales were at Class II prices or higher.

The 22 large, primarily fluid plants had relatively more problems in handling surplus than did any other type of plant, for a number of reasons. Manufacturing plants either would not or could not always easily absorb the large amounts of milk involved. In some markets, local manufacturing plants would not take excess milk from other plants. Because of difficulties in obtaining supplementary supplies in some markets, plants followed a practice of obtaining from producers a sufficient supply to cover all needs in the short season. Most plants preferred to obtain from producers sufficient milk for both Class I and Class II products. It is probable that most of these plants "lost money" on excess supplies. Disposals were generally to nonpool plants, and spot sales were more frequent than any kind of working agreement. Terms were mostly f. o. b. buyer's plant and prices received were commonly at or below the Class II level.

Considering all factors, excess receipts were less of a problem in Topeka than in the other 5 markets. All of the excess was disposed of within the market on working agreements. While terms were f. o. b. buyer's plant, most of the excess was directly diverted at Class II or better prices (table 23). In Wichita, the situation was comparable to that in Topeka with the exception that the producers' cooperative, rather than a private firm, assumed the primary responsibility for handling surplus. Excess disposition was commonly to nonpool plants outside the marketing area or by "turning back" to the producers' cooperative, and most of the excess was diverted directly to manufacturing plants. Excess disposal was relatively easy also in Oklahoma City where the producers' cooperative diverted part of the excess to manufacturing plants and most of the rest was picked up, with no hauling charge, by the major nonpool manufacturing facility. Prices received were Class II or above.

Excess disposal was, generally, more of a problem in the other 3 markets. In Kansas City, nearly all of the excess was disposed of f. o. b. buyer's plant at manufacturing prices. In Tulsa-Muskogee, substantial amounts of the excess were received and transshipped to nonpool plants in the area on terms f. o. b. buyer's plant, and prices received were usually the Class II order prices. In Neosho Valley, all 6 of the plants with excess receipts depended largely on spot sales for disposition; terms were usually f. o. b. buyer's plant, and most sales were at or below the Class II price.

Table 23.--Disposition of milk receipts from regular producers, in excess of total plant utilization, by markets

Item	Market						
	Kansas City	Topeka	Wichita	Oklahoma City	Tulsa-Muskogee	Neosho Valley	Total 6 markets
Number of handlers in market	9	6	6	7	6	9	43
Had excess receipts	8	4	6	5	6	6	35
Disposed of to:							
Other handlers	3	2	4	3	2	3	17
Nonpool plants in area	5	4	3	---	6	2	20
Nonpool plants outside area	4	---	3	3	1	1	12
Producers' organization	---	---	4	3	1	---	8
Sales method:							
Spot	4	---	2	3	3	6	18
Working agreement	7	4	5	2	3	1	22
Terms:							
F. o. b. seller's plant	2	---	---	5	2	1	10
F. o. b. buyer's plant	7	4	6	1	4	5	27
Price received:							
Class I	1/1	1/2	1/2	---	---	1/1	1/6
Class II:							
More than	1	---	---	1	1	1	4
Same as	---	3	5	4	3	2	17
Less than	1	---	---	---	1	---	2
Manufacturing:							
More than	---	---	1	---	---	1	2
Same as	5	1	---	---	---	2	8
Less than	1	---	---	---	1	---	2

1/ Sales at or above Class I prices probably indicate an imbalance of supply among plants rather than an excess supply situation.

CONCLUSIONS

The market organization and structure for surplus approved milk in the area studied resulted from a complex of factors related to the amount and seasonality of supply and utilization. Since the surplus milk was, in a sense, a byproduct of fluid milk operations, the handling of such milk cannot be considered in isolation, but must be considered in conjunction with higher value utilization. So, too, must be considered the supply and utilization of unapproved milk. Many of the facilities used to process surplus approved milk were developed and are maintained primarily for processing unapproved milk; in addition, for many uses the unapproved milk competes with the approved milk for a market.

The distinguishing organizational and structural characteristics of the individual market resulted from the extensiveness and ownership of processing facilities, the existence and strength of dominant firms--either producers' cooperatives or proprietary--and the working relationships between producers and handlers. However, in major characteristics, the 6 Federal milk markets were similar in more ways than they were different. For instance, in all markets the ownership of facilities was extensive, but the handling of surplus, particularly that which was excess to fluid, ice cream, and cottage cheese uses, was specialized. Also, in all, for some products such as cottage cheese, ice cream, and ice cream mix, the use of facilities was controlled more by the sales market than by the supply of milk.

For the entire area the milk supply-consumption balance was and continues to be such that many handlers need supplemental milk during the late summer and early fall in order to meet Class I and certain Class II needs. During the period November through June, most handlers received more milk than could be profitably utilized in their own plants and had to transfer the excess to nonpool plants. This excess supply of approved milk for 8 months of the year, combined with a relatively large supply of unapproved milk throughout the year, tended to hold Class II order prices at or very near the prices paid by local nonpool manufacturing plants. At any higher price, handlers would have had a strong incentive to reduce the amount of receipts from producers, so as to avoid losses on the excess supply, and to depend on nonpool sources for Class II products. The reduction in receipts from producers would have been limited by a balancing off of the overall costs of disposing of the excess against the costs of obtaining supplemental supplies.

At the time of the study, most of the responsibility for handling surplus was carried by proprietary handlers (the one exception was the Wichita market). However, producers' cooperatives were becoming more active as handlers. Assuming that this trend continues, the responsibility will shift to the cooperatives and they will bear any losses that may result. So, too, will they bear the expenses of supplemental supply. With this development, it is probable that the cooperatives will take a more active interest in bringing the seasonal supply more nearly in balance with higher value uses. The expenses of handling excess and of obtaining supplemental supplies will be bases for negotiating premiums from proprietary handlers who will be thus assured of an adequate but not excess supply.

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